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Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (currently amended): A computer-program-based method for providing a feedback control for a given set of entry and target control quantities χ and u of a system model where χ is an entry utilization value and u is a target utilization value, the method comprising a repetition of the following steps:

a) providing a time-dependent simulation system model of a system in a computer memory for simulating performance of real hardware for a number n of iterations;

b) providing a predetermined starting utilization value χ' , for each of said entry utilization control quantities χ in said model,

c) running the model based on said starting values and obtaining a resulting actual utilization value for each of said target utilization control quantities u ,

d) using the values obtained for u to define a new start value for χ for use in a repeated modeling step, and

e) storing in said computer memory for display, at least the value of χ for the last iteration,

whereby the system method comprises the following formula to calculate the respective next value of the entry utilization control quantities:

$$\chi'_{n+1} = \frac{v_n}{1 + p_n(1 - v_n)}$$

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where ρ_n is an accumulated wait time divided by an accumulated processing time of the system and v is a value according to the formula:

$$v_n = (n+1)u - nu_n$$

χ'_n being valid for the next iteration only while u_n and ρ_n are values measured from the beginning of the simulation and,

f) simulating a multi-processor system in which said utilization control quantities χ and u are central processor utilizations in a computer system model wherein utilization is the percentage of time the central processor utilizes for processing.

2. (canceled)

3. (currently amended): A computer program product for providing a feedback control for a given set of entry and target control quantities χ and u of a system model where χ is an entry utilization value and u is a target utilization value, said computer program product comprising:

a computer readable medium having recorded thereon computer readable program code performing the method comprising a repetition of the following steps:

a) providing a time-dependent simulation system model of a system in a computer memory for simulating performance of real hardware for a number n of iterations;

b) providing a predetermined starting utilization value χ'_1 for each of said entry utilization control quantities χ in said model,

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c) running the model based on said starting values and obtaining a resulting actual utilization value for each of said target utilization control quantities u ,

d) using the values obtained for u to define a new start value for χ for use in a repeated modeling step, and

e) storing in said computer memory for display, at least the value of χ for the last iteration,

whereby the method comprises the following formula to calculate the respective next value of the entry utilization control quantities:

$$\chi'_{n+1} = \frac{v_n}{1+\rho_n(1-v_n)}$$

where ρ_n is an accumulated wait time divided by an accumulated processing time of the system and v is a value according to the formula:

$$v_n = (n+1)u - nu_n$$

χ' being valid for the next iteration only while u_n and ρ_n are values measured from the beginning of the simulation and,

f) simulating a multi-processor system in which said utilization control quantities χ and u are central processor utilizations in a computer system model wherein utilization is the percentage of time the central processor utilizes for processing.

4. (canceled)

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5. (currently amended): A computer system for providing a feedback control for a given set of entry and target control quantities χ and u of a system model where χ is an entry utilization value and u is a target utilization value, the computer system comprising:

a) a computer memory having a time-dependent simulation system model of a computer system for simulating performance of real hardware for a number n iterations;

b) a starting utilization value χ'_1 for each of said entry utilization control quantities χ in said system model,

c) a control element running the system model based on said starting utilization values and obtaining a resulting actual utilization value for each of said target control quantities u ,

d) said control element using the values obtained for u to define a new start value for χ for use in a repeated modeling step, and

e) storing in said memory for display, the value of χ for the last iteration,

whereby the control element uses the following formula to calculate the respective next value of the entry utilization control quantities:

$$\chi'_{n+1} = \frac{v_n}{1 + p_n(1 - v_n)}$$

where p_n is an accumulated wait time divided by an accumulated processing time of the system and v is a value according to the formula:

$$v_n = (n+1)\mu - n\mu_n$$

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χ' being valid for the next iteration only while u_n and p_n are values measured from the beginning of the simulation and,

f) simulating a multi-processor system in which said utilization control quantities χ and u are central processor utilizations in a computer system model wherein utilization is the percentage of time the central processor utilizes for processing.

6. (canceled)